

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Kyofumi Takeuchi, et al.

Filing Date: March 20, 2001

Application No.: 09/787,614

Group Art Unit: 1756

Examiner: Wu, Shean Chiu

Title: NEMATIC LIQUID CRYSTAL COMPOSITION AND LIQUID  
CRYSTAL DISPLAY DEVICE USING THE SAME

**DECLARATION PURSUANT TO 37 C.F.R. 1.132**

Commissioner for Patents

Washington, D.C. 20231

Sir:

I, Kyofumi Takeuchi, residing in Tokyo, Japan, declare and state that

1. I graduated from the Master's Course of Engineering of Nagoya University in March 1980. Since April 1980, I have been employed by DAINIPPON INK AND CHEMICALS, INC, and have been engaged in research on liquid crystal areas.

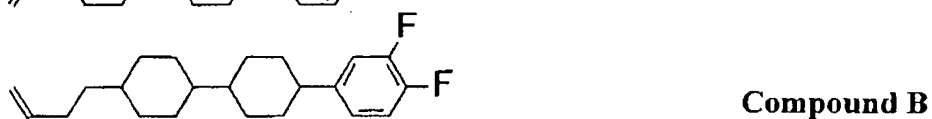
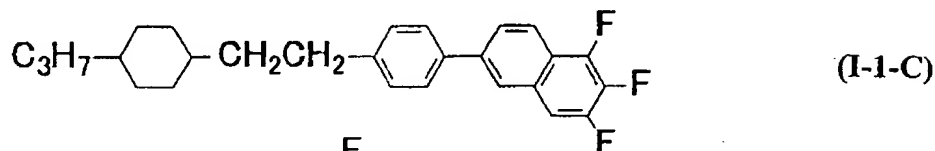
2. I am one of the inventors of the invention as claimed in the above-referenced application, and accordingly, I am familiar with the specification and claims which compose that application.

3. I am aware of the Office Action of March 21, 2005, issued on the above-referenced application, in which the present invention was rejected under 35 U.S.C. 102(b)/(e) as anticipated by or under 35 U.S.C. 103(a) as obvious in view of Coates et al. (US 5,942,648).

4. As is described in this Declaration, I conducted experiments for the purpose of demonstrating that unexpected effects can be obtained by combining two or more general formulas selected from general formulas (I-1) to (I-5) in claim 1 of the present invention as shown in Table 1.

**Example A**

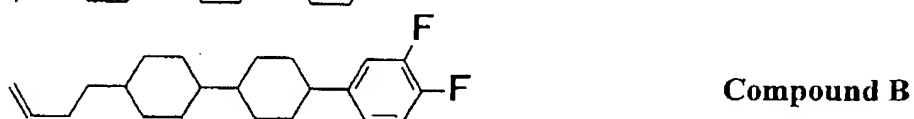
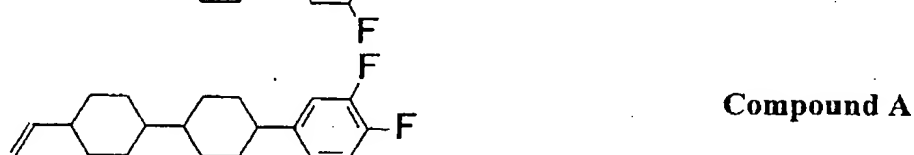
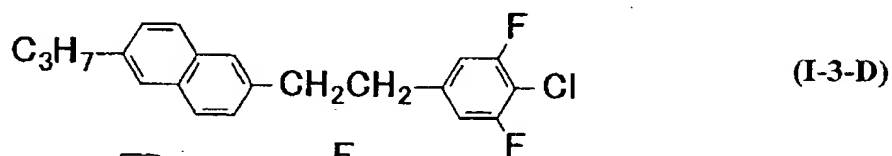
A nematic liquid crystal composition was prepared from



and various properties of this composition were measured. The results are shown in Table 1.

**Comparative Example A**

A nematic liquid crystal composition was prepared from



and various properties of this composition were measured. The results are shown in Table 1.

**Table 1**

		Example A	Comparative Example A
Composition	(I-1-C)	10wt%	-
	(I-3-C)	10wt%	10wt%
	(I-3-D)	-	10wt%
	Compound A	40wt%	40wt%
	Compound B	40wt%	40wt%
$T_{N-I}$ (°C)		117.1	84.3
$T_N$ (°C)		-9	+2
$V_{th}$		1.63	1.76
$\Delta\epsilon$		6.4	5.6

$T_{N-I}$ : Nematic phase-isotropic liquid phase transition temperature (°C)

$T_N$ : Solid phase or smectic phase-nematic phase transition temperature (°C)

$V_{th}$ : Threshold voltage (V) at 20°C when TN-LCD is constituted

$\Delta\epsilon$ : Dielectric constant anisotropy at 20°C

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: Sep. 15, 2005

Kyofumi Takeuchi

Kyofumi Takeuchi